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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,317	10/27/2000	Byung Jin Choi	PA09-06V02	6298

7590 02/20/2004
Kenneth C. Brooks
Molecular Imprints, Inc.
Legal Dept.
P.O. Box 81536
Austin, TX 78708

EXAMINER

DOUGHERTY, THOMAS M

ART UNIT PAPER NUMBER

2834

DATE MAILED: 02/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/698,317

Applicant(s)

CHOI ET AL.

Examiner

Thomas M. Dougherty

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 77-103 is/are pending in the application.
4a) Of the above claim(s) 87-103 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 77 and 86 is/are rejected.
7) ☒ Claim(s) 78-85 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 602,203,1203.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings have been noted as being informal by the Applicants. The proposed changes to the drawings in the paper of 07/07/03 is approved by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 77 and 86 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al. (US 6,411,010). Suzuki et al. show (fig. 7) a device to orientate a body (303) with respect to a surface (301) spaced apart from said body (303), said device comprising: a flexure system (304); and a body (303) connected to said flexure system (304), with said flexure system (304) adapted to position said body (303) in a desired orientation with respect to said surface (301) and maintain said orientation in response to a force being exerted upon said body (303).

Said flexure system (304) further comprise a plurality of piezo actuators (306a-d) attached to apply a force to rotate said body (303).

Allowable Subject Matter

Art Unit: 2834

Claims 78-85 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: the prior art fails to show or fairly suggest a pair of flexure members, each for orientation of the body and each defining its own axis of rotation wherein the two axes of rotation extend transversely to each other and the two axes are decoupled from each other. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 11/28/03 have been fully considered but they are not persuasive. The restriction is maintained for the reasons cited in the restriction requirement.

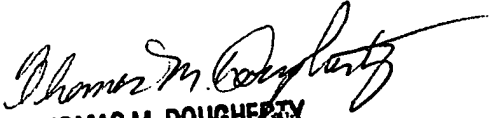
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining prior art cited reads on at least some aspect or aspects of the claimed invention.

Direct inquiry to Examiner Dougherty at (571) 272-2022.

tmd
tmd

February 13, 2004


THOMAS M. DOUGHERTY
PRIMARY EXAMINER
GROUP 2100

→ +

Approved for use through 10/31/2002. OMB 0651-0031,
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Complete if Known

Application Number	09/698,317
Filing Date	October 27, 2000
First Named Inventor	Choi et al.
Group Art Unit	2859
Examiner Name	Unassigned <i>T. Dougherty</i>
Attorney Docket Number	PA09-06V02

(use as many sheets as necessary)

Sheet 1 of 2

[illegible][illegible]

**Examiner
Signature**

Thomas M. Overholt

**Date
Considered**

2-12-04

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

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PTO/SB/08A (08-00)

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U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	09/698,317
		Filing Date	October 27, 2000
		First Named Inventor	Choi et al.
		Group Art Unit	2859
		Examiner Name	Unassigned T. Dougherty
Sheet 2 of 2	Attorney Docket Number	PA09-06V02	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
TMD	B10	LIN, "Multi-Layer Resist Systems", Introduction of Microlithography, American Chemical Society, 1983, pp. 287-350, IBM T.J. Watson Research Center, Yorktown Heights, New York 10598.	
TMD	B11	COWIE, "Polymers: Chemistry and Physics of Modern Materials", 1991, pp. 408-409, 2 nd Ed, Chapman and Hall, a division of Routledge, Chapman and Hall, Inc., 29 West 35 th Street, NY, NY 10001-2291.	
TMD	B12	CHOU et al., "Imprint of Sub-25 nm Vias and Trenches in Polymers", Applied Physics Letters, November 20, 1995, pp. 3114-3116, vol. 67(21).	
TMD	B13	CHOU et al., "Imprint Lithography with 25-Nanometer Resolution", Science, Apr. 5, 1996, pp. 85-87, vol. 272.	
TMD	B14	CHOU et al., "Imprint Lithography with Sub-10nm Feature Size and High Throughput", Microelectronic Engineering, 1997, pp. 237-240, vol. 35.	
TMD	B15	XIA et al., "Soft Lithography", Agnew. Chem. Int. Ed., 1998, pp. 550-575, vol. 37.	

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Examiner Signature	Thomas M. Dougherty	Date Considered	2-12-04
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Complete if Known

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

2

Application Number

09/698,317

Filing Date

October 27, 2000

First Named Inventor

Choi et al.

Group Art Unit

2834

Examiner Name

Dougherty, Thomas M.

Attorney Docket Number

UTS-09-06V02

U.S. PATENT DOCUMENTS

[illegible]

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PTO/SB/08A (08-00)

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Thomas M. Dougherty February 12, 2004

Approved for use

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Applicati n Number	09/698,317
		Filling Dat	October 27, 2000
		First Nam d Inv nt r	Choi et al.
		Group Art Unit	2834
		Examiner Name	Dougherty, Thomas M.
		Attorney Docket Number	UTS-09-06V02
Sheet	2	of	2

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite ² No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
TMM	C3	Feldman et al., "Wafer Chuck for Magnification correction in X-ray Lithography," Journal of Vacuum Science and Technology, Nov/Dec 1998, pp. 3476-3479, vol. B 16(6).	

Examiner Signature	Thomas M. Dougherty	Date Considered	Feb. 12, 2004
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Form PTO-1449 (modified)

List of Patents and Publications
For Applicant's Information
Disclosure Statement
(Use several sheets if necessary)

ATTY. DKT. NO. 5119-08601

SERIAL NO. 09/698,317

APPLICANT: Choi et al.

GROUP: 2859

FILING DATE: October 27, 2000

U.S. PATENT DOCUMENTS

EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
tmj	A1	3,807,027	4/1974	Heisler	29	423	
tmj	A2	3,807,029	4/1974	Troeger	29	436	
tmj	A3	3,811,665	5/1974	Seelig	26	RECEIVED	
tmj	A4	4,062,600	12/1977	Wyse	384	325	2002
tmj	A5	4,098,001	7/1978	Watson	33	644	
tmj	A6	4,155,169	5/1979	Drake et al.	33	GROUP 3600	
tmj	A7	4,202,107	5/1980	Watson	33	644	
tmj	A8	4,267,212	5/1981	Sakawaki	427	240	
tmj	A9	4,337,579	7/1982	De Fazio	33	644	
tmj	A10	4,355,469	10/1982	Nevins et al.	267	150	
tmj	A11	4,414,750	11/1983	De Fazio	267	166	
tmj	A12	4,451,507	5/1984	Beltz et al.	427	240	
tmj	A13	4,610,442	9/1986	Oku et al.	269	73	
tmj	A14	4,694,703	11/1987	Routson	74	5F	
tmj	A15	4,731,155	3/1988	Napoli et al.	216	44	
tmj	A16	4,763,886	8/1988	Takei	269	73	
tmj	A17	4,929,083	5/1990	Brunner	356	400	
tmj	A18	4,959,252	11/1990	Bonnebat et al.	428	64.7	
tmj	A19	5,072,126	12/1991	Proglar	250	548	
tmj	A20	5,110,514	5/1992	Soane	264	496	
tmj	A21	5,126,006	6/1992	Cronin et al.	438	702	
tmj	A22	5,204,739	4/1993	Domenicali	348	79	
tmj	A23	5,240,550	8/1993	Boehnke et al.	216	24	
tmj	A24	5,348,616	9/1994	Hartman et al.	216	48	
tmj	A25	5,392,123	2/1995	Marcus et al.	356	625	
tmj	A26	5,425,964	6/1995	Southwell et al.	427	10	
tmj	A27	5,452,090	9/1995	Proglar et al.	356	401	

EXAMINER:

Thomas M. Ruppert

DATE CONSIDERED:

Feb. 13, 2004

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Form PTO-1449 (modified)
List of Patents and Publications
For Applicant's Information
Disclosure Statement
(Use several sheets if necessary)

ATTY. DKT. NO. 5119-08601

SERIAL NO. 09/698,317

APPLICANT: Choi et al.

GROUP: 2859

FILING DATE: October 27, 2000

U.S. PATENT DOCUMENTS

EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
<i>DMB</i>	A28	5,480,047	1/1996	Tanigawa et al.	216	12	
<i>DMB</i>	A29	5,512,131	4/1996	Kumar et al.	438	75	
<i>DMB</i>	A30	5,515,167	5/1996	Ledger et al.	356	595	
<i>DMB</i>	A31	5,545,367	10/1996	Bae et al.	264	401	
<i>DMB</i>	A32	5,566,584	10/1996	Briganti et al.	74	490.01	
<i>DMB</i>	A33	5,633,505	5/1997	Chung et al.	250	491.1	
<i>DMB</i>	A34	5,724,145	3/1998	Kondo et al.	356	632	
<i>DMB</i>	A35	5,753,014	5/1998	Van Rijn	96	12	
<i>DMB</i>	A36	5,760,500	6/1998	Kondo et al.	310	12	
<i>DMB</i>	A37	5,772,905	6/1998	Chou	216	44	
<i>DMB</i>	A38	5,776,748	7/1998	Singhvi et al.	435	180	
<i>DMB</i>	A39	5,779,799	7/1998	Davis	118	663	
<i>DMB</i>	A40	5,802,914	9/1998	Fassler et al.	74	110	
<i>DMB</i>	A41	5,877,036	3/1999	Kawai	438	16	
<i>DMB</i>	A42	5,877,861	3/1999	Ausschnitt et al.	356	401	
<i>DMB</i>	A43	5,888,650	3/1999	Calhoun et al.	428	354	
<i>DMB</i>	A44	5,900,160	5/1999	Whitesides et al.	216	41	
<i>DMB</i>	A45	5,912,049	6/1999	Shirley	427	240	
<i>DMB</i>	A46	5,942,871	8/1999	Lee	318	611	
<i>DMB</i>	A47	5,948,470	9/1999	Harrison et al.	427	198	
<i>DMB</i>	A48	5,952,127	9/1999	Yamanaka	430	5	
<i>DMB</i>	A49	6,038,280	3/2000	Rossiger et al.	378	50	
<i>DMB</i>	A50	6,039,897	3/2000	Lochhead et al.	264	1,24	
<i>DMB</i>	A51	6,046,056	4/2000	Parce et al.	204	409.05	
<i>DMB</i>	A52	6,051,345	4/2000	Huang	430	5	
<i>DMB</i>	A53	6,074,827	6/2000	Nelson et al.	435	6	
<i>DMB</i>	A54	6,091,485	7/2000	Li et al.	356	73	
	A55	6,128,085	10/2000	Buermann et al.	356	369	

EXAMINER:

Thomas M. Dwyer

DATE CONSIDERED:

Feb. 13, 2004

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Form PTO-1449 (modified)

List of Patents and Publications

For Applicant's Information

Disclosure Statement

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ATTY. DKT. NO. 5119-08601

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APPLICANT: Choi et al.

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IMD	A56	6,143,412	11/2000	Schueler et al.	428	408	
IMD	A57	6,168,845	1/2001	Fontana, Jr. et al.	428	65.5	
IMD	A58	6,180,239	1/2001	Whitesides et al.	428	411.1	JUN 26 2002
IMD	A59	6,204,922	3/2001	Chalmers	356		
IMD	A60	6,334,960	1/2002	Wilson et al.	216	52	

FOREIGN PATENT DOCUMENTS

EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO
IMD	A61	00/54107	9/2000	WO	600C	7/00	
IMD	A62	01/33232	5/2001	WO	601R	—	
IMD	A63	01/33300	5/2001	WO	402K	5/24	
IMD	A64	244884	3/1987	EP	829C	33/34	
IMD	A65	733455	9/1996	EP	829C	33/34	NO
IMD	A66	2800476	7/1978	DE	603C	5/08	NO
IMD	A67	19648844	11/1999	DE	829C	59/02	NO
IMD	A68	1-196749	8/1989	JP	611B	7/26	NO

EXAMINER:

Thomas M. Dougherty

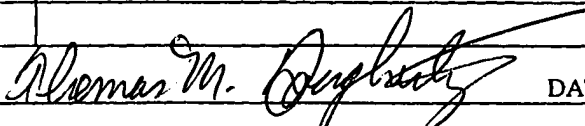
DATE CONSIDERED:

Feb. 13, 2004

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Form PTO-1449 (modified) List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)		ATTY. DKT. NO. 5119-08601 APPLICANT: Choi et al. FILING DATE: October 27, 2000	SERIAL NO. 09/698,317 RECEIVED GROUP 2859 JUN 26 2002 GROUP 3600
OTHER ARTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
tmf	A69	Stewart, D.; "A Platform with Six Degrees of Freedom", Proc. of Inst. Mech. Engrs., 1965, 180, 371-378.	
tmf	A70	Paros, J.M.; Weisbord, L.; "How to Design Flexure Hinges", Machine Design, 1965, 151-156.	
tmf	A71	Raibert, M.H.; Craig, J.J.; "Hybrid Position/Force Control of Manipulators", 1981, 102, 126-133.	
tmf	A72	Hogan, Neville; "Impedance Control: An Approach to Manipulation", Journal of Dynamic Systems, Measurement and Control, 1985, 107, 1-7.	
tmf	A73	Hollis, Ralph; Salcudean, S.E.; Allan, A.P.; "A Six-Degree-of-Freedom Magnetically Levitated Variable Compliance Fine-Motion Wrist: Design, Modeling and Control", IEEE Transactions on Robotics and Automation, 1991, 7, 320-332.	
tmf	A74	Tomita, Y. et al.; "6-Axes Motion Control Method for Parallel-Linkage-Type Fine Motion Stage", Journal of Japan Society of Precision Engineering, 1992, 118-124.	
tmf	A75	Slocum, Alexander; "Precision Machine Design: Macromachine Design Philosophy and its Applicability to the Design of Micromachines", Proc. of IEEE Micro Electro Mech. Systems Workshop, 1992, 37-42.	
tmf	A76	Krug, Herbert; Merl, Norbert; Schmidt, Helmut; "Fine Patterning of Thin Sol-Gel Films", Journal of Non-Crystalline Solids, 1992, 447-450.	
tmf	A77	Arai, T.; Larssonneur, R.; Jaya, Y.M.; "Calibration and Basic Motion of a Micro Hand Module", Proc. of IECON, 1993, 1660-1665.	
tmf	A78	Peng, Zhi-Xin; Adachi, N.; "Compliant Motion Control of Kinematically Redundant Manipulators", IEEE Transactions on Robotics and Automation, 1993, 9, 831-837.	
tmf	A79	Rong, Y.; Zhu, Y.; Luo, Z.; Liu, X.; "Design and Analysis of Flexure-Hinge Mechanism Used in Micro-Positioning Stages", ASME, 1994, 2, 979-985.	
tmf	A80	Hashimoto, M.; Imamura, Y.; "Design and Characteristics of a Parallel Link Compliant Wrist", IEEE International Conference on Robotics and Automation, 1994, 2457-2462.	
tmf	A81	Merlet, J.P.; "Parallel Manipulators: State of the Art and Perspectives", Advanced Robotics, 1994, 8, 589-596.	
tmf	A82	Ananthasuresh, S.; Kikuchi, N.; "Strategies for Systematic Synthesis of Compliant MEMS", ASME, 1994, 2, 677-686.	
tmf	A83	Arai, T.; Tanikawa, T.; Merlet, J.P.; Sendai, T.; "Development of a New Parallel Manipulator with Fixed Linear Actuator", Proc. of Japan/USA Symposium on Flexible Automation, 1996, 1, 145-149.	
tmf	A84	Howell, L.L.; Midha, A.; "Loop-Closure Theory of the Analysis and Synthesis of Compliant Mechanisms", Journal of Mechanical Design, 1996, 118, 121-125.	
tmf	A85	Haisma, J. et al.; "Mold-Assisted Nanolithography: A Process for Reliable Pattern Replication", Journal of Vacuum Science and Technology, 1996, 14, 4124-4128.	
tmf	A86	Pernette, Eric; Henein, Simon; Magnani, Ivo; Clavel, Reymond; "Design of Parallel Robots in Microrobotics", Robotica, 1997, 15, 417-420.	

EXAMINER:



DATE CONSIDERED:

Feb. 13, 2004

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the patent owner.

Form PTO-1449 (modified) List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)		ATTY. DKT. NO. 5119-08601 APPLICANT: Choi et al. FILING DATE: October 27, 2000	SERIAL NO. 09/698,317 GROUP: 2859
tm	A87	Rong, L.; Guanghua, "Dynamics of Parallel Mechanism with Direct Compliance Control", IEEE, 1997, 1753-1758.	
tm	A88	Mittal, Samir; Menq, Chia-Hsiang; "Precision Motion Control of Magnetic Suspension Actuator Using a Robust Nonlinear Compensation Scheme", IEEE/ASME Transactions on Mechatronics, 1997, 2, 268-280.	
tm	A89	Physik Instruments, Product Catalog for Micropositioning, 1997.	
tm	A90	Williams, Mark et al.; "Six Degree of Freedom Mag-Lev Stage Development", SPIE, 1997, 3051, 856-867.	
tm	A91	Lee, Chang-Woo; Kim, Seung-Woo; "Ultraprecision Stage for Alignment of Wafers in Advanced Microlithography", Precision Engineering, 1997, 21, 113-122.	
tm	A92	Kanetomo, M.; Kashima, H.; Suzuki, T.; "Robot for Use in Ultrahigh Vacuum", Solid State Tech., 1997, 63-72.	
tm	A93	Goldfarb, M.; Speich, J.; "Compliant Micromanipulator Design for Scaled Bilateral Telemanipulation of Small-Scale Environments", ASME, Dynamic Systems and Control Div., 1998, 64, 213-218.	
tm	A94	Koseki, Y. et al.; "Design and Accuracy Evaluation of High-Speed and High Precision Parallel Mechanism", Proc. of IEEE, Intl. Conf. on Robotics & Automation, 1998, 1340-1345.	
tm	A95	Kim, Won-Jong; Trumper, David; "High Precision Magnetic Levitation Stage for Photolithography", Precision Engineering, 1998, 22, 66-77.	
tm	A96	Mansky, P. et al.; "Large-Area Domain Alignment in Block Copolymer Thin Films Using Electric Fields", Macromolecules, 1998, 31, 4399-4401.	
tm	A97	Wang, W.; Loh, R.; Gu, E.; "Passive Compliance Versus Active Compliance in Robot-Based Automated Assembly Systems", Industrial Robot, 1998, 25, 48-57.	
tm	A98	Scheer, H.C. et al.; "Problems of Nanoimprinting Technique for Nanometer Scale Pattern Definition", Journal of Vacuum Science and Technology, 1998, 16, 3917-3921.	
tm	A99	Xia, Y.; Whitesides, George; "Soft Lithography", Annu. Rev. Mater. Sci., 1998, 28, 153-184.	
tm	A100	Tajbakhsh, H. et al.; "Three-Degree-of-Freedom Optic Mount for Extreme Ultraviolet Lithography", ASPE, 1998, 18, 359-362.	
tm	A101	Lee, Dong Sung et al.; "Ultra Precision Positioning System for Servo Motor-Piezo Actuator Using Dual Servo Loop and Digital Filter Implementation", ASPE, 1998, 18, 287-290.	
tm	A102	Wu, Wei et al.; "Large Area High Density Quantized Magnetic Disks Fabricated Using Nanoimprint Lithography", 1998, Journal of Vacuum Science and Technology, 1998, 16, 3825-3829.	
tm	A103	Ohya, Y. et al.; "Development of 3-DOF Finger Module for Micro Manipulation", Proc. of IEEE, Intl. Conf. on Intelligent Robots and Systems, 1999, 894-899.	
tm	A104	Tanikawa, T. et al.; "Development of Small-Sized 3 DOF Finger Module in Micro Hand for Micro Manipulation", Proc. of IEEE, Intl. Conf. on Intelligent Robots and Systems, 1999, 876-881.	
tm	A105	Colburn, M. et al.; "Step and Flash Imprint Lithography: New Approach to High-Resolution Patterning", Proc. of SPIE, 1999, 3676, 379-389.	

EXAMINER:

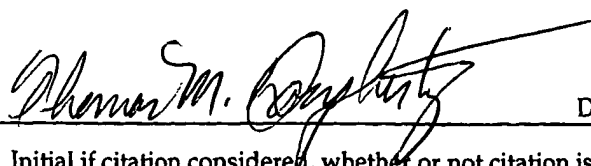
DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the patent owner.

Information Disclosure Statement--PTO 1449 (modified)

Form PTO-1449 (modified) List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)		PAT. DKT. NO. 5119-0860 APPLICANT: Choi et al. FILING DATE: October 27, 2001	SERIAL NO. 09/698,317 GROUP: 2859 JUN 26 2002 RECEIVED GROUP 3600
dmj	A106	Lucas Aerospace, Free-Flex Pivot Catalog. 1999	
dmj	A107	Goldfarb, M.; Speich, J.E.; "A Well-Behaved Revolute Flexure Joint for Compliant Mechanism Design", Journal of Mech. Design, 1999, 121, 424-429.	
dmj	A108	Geodetic Technology, G1000-PS Power Series Specifications, 1999, from www.hexapods.com	
dmj	A109	Hexel Corporation, Tornado 2000 System Specifications, 1999, from www.hexel.com	
dmj	A110	Physik Instruments, PI Online-Catalog, 1999, from www.physikinstrument.com	
dmj	A111	Chou, Stephen; Zhuang, Lei; "Lithographically-induced Self Assembly of Periodic Micropillar Arrays", Journal of Vacuum Science and Technology, 1999, 17, 3197-3202.	
dmj	A112	Ruchhoeft, P. et al.; "Patterning Curved Surfaces: Template Generation by Ion Beam Proximity Lithography and Relief Transfer by Step and Flash Imprint Lithography", Journal of Vacuum Science and Technology, 1999, 17, 2965-2982.	
dmj	A113	Vanderbilt University Office of Transfer Technology; VU 9730 Specifications for Improved Flexure Device; 2001, from www.vanderbilt.edu	
dmj	A114	Stix, Gary; "Getting More from Moore's", Scientific American, 2001, from www.scientificamerican.com	
dmj	A115	Trilogy Systems, Linear Motors 310 Specification, 2001, from www.trilogysystems.com	
dmj	A116	Choi, B.J. et al.; "Design of Orientation Stages for Step and Flash Imprint Lithography", Precision Engineering, 2001, 25, 192-199.	
dmj	A117	PCT International Search Report for PCT/US 00/30041, dated 10/15/2001	
dmj	A118	PCT International Search Report for PCT/US 01/26049, dated 2/19/2002	

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Notice of References Cited	Application/Control No. 09/698,317	Applicant(s)/Patent Under Reexamination CHOI ET AL.	
	Examiner Thomas M. Dougherty	Art Unit 2834	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,772,905 A	06-1998	Chou, Stephen Y.	216/44
*	B	US-6,411,010 B1	06-2002	Suzuki et al.	310/323.17
*	C	US-5,063,321	11-1991	Carter, Robert E.	310/323.17
*	D	US-3,527,062	09-1970	BILINSKI DONALD J; et. al.	464/78
*	E	US-6,188,150 B1	02-2001	Spence, Paul A.	310/12
*	F	US-6,467,761 B1	10-2002	Amatucci et al.	269/58
*	G	US-5,270,984 A	12-1993	Mine, Kazuhiro	367/140
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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NON-PATENT DOCUMENTS

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